

REMARKS

The Examiner rejected claims 34 and 36 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504), in view of Maezawa *et al.* (US 6,145,024).

The Examiner rejected claim 35 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,158,504), in view of Maezawa *et al.* (US 5,145,024) as discussed above regarding claim 34, and further in view of examiner's official notice.

The Examiner rejected claim 43 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504), in view of Maezawa *et al.*, (US 6,145,024), as applied to claim 34 above, and further in view of Chappel *et al.* (US 6,081,527).

The Examiner rejected claim 37 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504), in view of Maezawa *et al.* (US 6,145,024), as applied to claim 34 above, and further in view of Habbab *et al.* (US 4,797,879).

The Examiner rejected claim 38-42 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504), in view of Maezawa *et al.* (US 6,145,024), as applied to claim 34 above, and further in view of Wu *et al.* (US 5,946,116).

Applicants respectfully traverse the § 103 rejections with the following arguments.

35 U.S.C. § 103(a): Claims 34 and 36

The Examiner rejected claims 34 and 36 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *et al.* (US 5,148,504), in view of Maezawa *et al.* (US 6,145,024).

The Examiner's analysis for claim 34 has identified the claimed integrated circuit and its components in Levi, FIG. 10 as follows:

the integrated circuit (100),

the first core (102),

the first optic controller (111, and 93 in Fig. 9) connected to the first core (102),

a plurality of optical transmitters (109, and 90 in FIG. 9) under control of the first optic controller (111, and 93 in Fig. 9),

the second core (103),

a second optic controller (112, and 93 in Fig. 9) connected to the second core (103),

a plurality of optical receivers (110) under control of the second optic controller (112, and 93 in Fig. 9), and

a plurality of optical channels (106), wherein each optical channel (106) extends from one of the optical transmitters (109, and 90 in FIG. 9) to one of the optical receivers (110).

In Applicants' following analysis, Applicant will insert the preceding reference numerals of Levi in various claimed features of claim 34.

Applicants respectfully contend that claim 34 is not unpatentable over Levi in view of Maezawa, because Levi in view of Maezawa does not teach or suggest each and every feature of claim 34.

As a first example of why claim 34 is not unpatentable over Levi in view of Maezawa, Levi in view of Maezawa does not teach or suggest the feature: “sending an address of a second core (103) and control signals from a first core (102) to a first optic controller (111)” and “transmitting the optical data from the first optical transmitter (111) to the first optical receiver (110) via the first optical channel (106)”

The Examiner’s analysis is incompatible with the directionality of optical data flow in Levi, FIG. 10 In particular, Levi, col. 13, lines 11-31 describes the optical data flow as follows. Input data flow from optical fibers (not shown in Levi, FIG. 10) at optical coupling points 105 into guides 104 and then into guides 106 at junctures 108, and then into switch elements 111 and 112 to cause fan-out of the data flow into elements 109 and 110, respectively. Thus, Levi, FIG. 10 does not describe optical data flow from element 111 to element 110 as claimed. In addition, Levi, FIG. 10 does not describe optical data flow from first core (102) to element 111 as claimed.

Additionally, Levi does not disclose sending an **address** of a second core (103) and control signals from a first core (102) to a first optic controller (111). The Examiner cites Levi, col. 4, lines 32-38 as allegedly disclosing said address of the second core (103). In response, Applicants respectfully contend that Levi, col. 4, lines 32-38 absolutely does not mention an **address** of any kind.

Therefore, the Examiner has not established a *prima facie* case of obviousness in relation to claim 34.

As a second example of why claim 34 is not unpatentable over Levi in view of Maezawa, Levi in view of Maezawa does not teach or suggest the feature: “selecting a first optical channel

(106) of the plurality of optical channels for subsequently transmitting an optical signal over the first optical channel (106), wherein the first optical channel (106) extends from a first optical transmitter (109) of the plurality of optical transmitters and a first optical receiver (110) of the plurality of optical receivers, and wherein said selecting is performed by the first optic controller (111)”.

Firstly, there is no disclosure of an optical signal from element 109 to element 110 over channel 106, as explained *supra* in conjunction with Applicants’ “first example”.

Secondly, element 111 does not perform selecting a channel 106 of the plurality of channels. Rather, the function of element 111 is to control fan-out of a signal in channel 106 into elements 109 as explained in Levi, col. 13, lines 26-31.

Therefore, the Examiner has not established a *prima facie* case of obviousness in relation to claim 34.

As a third example of why claim 34 is not unpatentable over Levi in view of Maezawa, Levi in view of Maezawa does not teach or suggest the feature: “**encoding into optical data**, by the first optical transmitter (109), the transmitted data” (emphases added).

The Examiner alleges that the preceding “encoding” is disclosed in Levi, col. 13, lines 26-29 which recites: “Optical-to-electrical conversion, designed to interface with contacts not shown on the undersides of ICs 102 and 103, is made at elements 109 and 110.”

Thus, whereas claim 34 recites encoding the transmitted data **into optical data**, Levi, col. 13, lines 26-29 teaches the opposite, namely the encoding optical data **into electrical data**.

Therefore, the Examiner has not established a *prima facie* case of obviousness in relation

to claim 34.

As a fourth example of why claim 34 is not unpatentable over Levi in view of Maezawa, Levi in view of Maezawa does not teach or suggest the feature: “decoding, by the first optic controller (111), the address”.

The Examiner alleges that said decoding is disclosed in Maezawa, col. 14, lines 36-43 which recites: “In the above-mentioned arrangement, the link connection control circuit 38 shown in FIG. 3 detects connection information corresponding to each channel path in the received frame so that each channel path control circuit can make judgment by means of a control signal 68. The link connection control circuit 38 also checks the validity of the received frame according to its kind.”

In response, Applicants respectfully contend that the preceding quote from Maezawa, col. 14, lines 36-43 does not disclose decoding an address as alleged by the Examiner.

In addition, Applicants respectfully contend that the Examiner’s argument for modifying Levi by having element 111 decode the address of the second core 103 is not persuasive. The Examiner argues that “it would have been obvious for a person of ordinary skill in the art at the time of invention to use **Levi’s** optic controller to decode the address of the second core before selecting a first optical channel of the plurality of optical channels as taught by **Maezawa**. The motivation for doing so would have been to perform faster path selection by decoding the address using the controller.”

In response, Applicants first note that element 111 does perform path selection as explained *supra* in conjunction with the “second example”. Furthermore, it is not necessary to

decode the address of the second core 103 to perform faster path selection, because all paths 106 in Levi, FIG. 10 are between cores 102 and 103. Therefore, decoding the address of the second core 103 does not in any way assist in distinguishing the different paths 106 in Levi, FIG. 10.

Therefore, the Examiner has not established a *prima facie* case of obviousness in relation to claim 34.

Based on the preceding arguments, Applicants respectfully maintain that claim 34 is not unpatentable over Levi in view of Maezawa, and that claim 34 is in condition for allowance. Since claim 36 depends from claim 34, Applicants contend that claim 36 is likewise in condition for allowance.

In addition with respect to claim 36, Levi in view of Maezawa does not disclose the feature: “wherein said selecting takes into account one or more defective optical channel of the plurality of optical channels”.

The Examiner argues: “As to claim 36, **Maezawa** further teaches wherein said selecting takes into account one or more defective optical channel of the plurality of optical channels (col 18, ln 31-49)”.

In response, Applicants note the Examiner has not provided an argument evidenced by teaching in the prior art that it is allegedly obvious to modify Levi by having the selecting take into account one or more defective optical channel of the plurality of optical channels.

Therefore, the Examiner has not established a *prima facie* case of obviousness in relation to claim 36.

35 U.S.C. § 103(a): Claim 35

The Examiner rejected claim 35 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,158,504), in view of Maezawa *et al.* (US 5,145,024) as discussed above regarding claim 34, and further in view of examiner's official notice.

Since claim 35 depends from claim 34, which Applicants have argued *supra* to not be not unpatentable over Levi in view of Maezawa under 35 U.S.C. §103(a), Applicants maintain that claim 35 is likewise not unpatentable over Levi in view of Maezawa and further in view of examiner's official notice under 35 U.S.C. §103(a).

In addition with respect to claim 35, Levi in view of Maezawa does not disclose the feature: "wherein said selecting takes into account a channel length of each optical channel of the plurality of optical channels".

The Examiner argues: "Regarding claim 35, **the combination of Levi and Maezawa** discloses the method in accordance to claim 34 as discussed above. It does not disclose expressly wherein said selecting takes into account one or more defective optical channel of the plurality of optical channels. However, Examiner takes **official notice** that it is common and well known to select optical channel for transmission by taking into account a channel length of each optical channel of a plurality of optical channels. Therefore, it would have been obvious or a person of ordinary skill in the art at the time of invention to take into account one or more defective optical channel of the plurality of optical channels onto the selecting step in **the combination of Levi and Maezawa's** system as it is **common and well known**. The motivation for doing so would have been to enhance transmission speed by taking into account channel length when selecting

transmission channel.”

In response, Applicants do not agree with the Examiner’s allegation of official notice, because channel length is pertinent to channel selection only if there is a significantly large variation in the lengths of the existing channels to justify the complexity and expense of taking the channel lengths into account in the process of selecting a channel.

Therefore, Applicants respectfully request, under MPEP 2144.03C, that the Examiner supply evidence allegedly supporting the Examiner’s allegation of official notice that “it is common and well known to select optical channel for transmission by taking into account a channel length of each optical channel of a plurality of optical channels”.

Moreover, even if the Examiner could provide evidence to support the Examiner’s allegation of official notice, Applicants respectfully contend that it is not obvious to modify Levi to take channel length into account in the process of selecting a channel, because there is no disclosure in Levi that there is a significantly large variation in the lengths of the existing channels 106 to justify the complexity and expense of taking the channel lengths into account in the process of selecting a channel. To the contrary, the channels 106 in Levi, FIG. 10, appear to have lengths that do not vary significantly from each other.

Therefore, the Examiner has not established a *prima facie* case of obviousness in relation to claim 36.

35 U.S.C. § 103(a): Claim 43

The Examiner rejected claim 43 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504), in view of Maezawa *et al.*, (US 6,145,024), as applied to claim 34 above, and further in view of Chappel *et al.* (US 6,081,527).

Since claim 43 depends from claim 34, which Applicants have argued *supra* to not be not unpatentable over Levi in view of Maezawa under 35 U.S.C. §103(a), Applicants maintain that claim 43 is likewise not unpatentable over Levi in view of Maezawa and further in view of Chappel under 35 U.S.C. §103(a).

35 U.S.C. § 103(a): Claim 37

The Examiner rejected claim 37 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US 5,148,504), in view of Maezawa *et al.* (US 6,145,024), as applied to claim 34 above, and further in view of Habbab *et al.* (US4,797,879).

Since claim 37 depends from claim 34, which Applicants have argued *supra* to not be not unpatentable over Levi in view of Maezawa under 35 U.S.C. §103(a), Applicants maintain that claim 37 is likewise not unpatentable over Levi and further in view of Maezawa in view of Habbab under 35 U.S.C. §103(a).

35 U.S.C. § 103(a): Claims 38-42

The Examiner rejected claim 38-42 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Levi *et al.* (US5,148,504), in view of Maezawa *et al.* (US 6,145,024), as applied to claim 34 above, and further in view of Wu *et al.* (US 5,946,116).

Since claims 38-42 depend from claim 34, which Applicants have argued *supra* to not be not unpatentable over Levi in view of Maezawa under 35 U.S.C. §103(a), Applicants maintain that claims 38-42 is likewise not unpatentable over Levi in view of Maezawa and further in view of Wu under 35 U.S.C. §103(a).

In addition with respect to claims 40-42, Levi in view of Maezawa and further in view of Wu does not disclose the features:

“wherein the redirection termination is curved” (claim 40);
“wherein the redirection termination is hemispherical-shaped” (claim 41);
“wherein the redirection termination is cone-shaped” (claim 42).

The Examiner argues: “As to claims 40-42, absent any teaching of criticality, it would have been an engineering design choice to make the redirection termination as described above as slant-shaped, curved, hemispherical-shaped, or cone-shaped. Furthermore, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Swain et al., 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412; Minnesota Mining and Mfg. Co. v. Coe, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; Allen et al. v. Coe, 77 App. D.C. 324, 135 F.2d 11, 57 USPQ 136.”

In response, Applicants cite *In re Antonie*, 559 F.2d 618, 619, 195 U.S.P.Q. 6, 8 (C.C.P.A.

1977) which held that varying a variable to optimize a result is obvious only if the prior art has disclosed that the variable is a result effective variable for optimizing the result. The Examiner has not cited any prior art demonstrating that it was known to a person of ordinary skill in the art that the features of the redirection termination being curved, hemispherical-shaped, and cone-shaped are result effective variables with respect to the alleged optimization.

Therefore, the Examiner has not established a *prima facie* case of obviousness in relation to claims 40-42.

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CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account 09-0456.

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